

REMARKS

Claims 1, 2 and 5-14 are pending in the present application. Claims 3 and 4 are withdrawn from consideration. All of the pending claims are rejected.

Regarding Formalities

The Examiner mentions that the drawings are not in final form. Moreover, there are some minor typographical or grammatical errors in the specification. Applicants submit their intention to provide replacement formal drawings upon notification of allowable subject matter. Applicants herein correct these grammatical errors as the Examiner requests. On page 3, line 23, the second "of" is deleted. On page 3, line 24, "tdo" is replaced with "at." On page 4, line 6, a space is inserted after 1 and "2 and TEM" is changed to "2 are TEM" as suggested. Moreover, a section "A" is provided under the Examples.

Regarding the "--" in the table describing notched IZOD values on page 8, line 6, Applicants insert "na" as these values were not available at the time the application was filed.

Rejection Under 35 U.S.C. 112, second paragraph

The Examiner says that it is unclear whether the two formulations recited in claim 6 are alternatives or whether both formulations are present together. Applicants submit that these are alternatives. Formula A or Formula B may be used as one skilled in the art would appreciate.

The Examiner says that “commercially significant level” is unclear in claim 11. Applicants herein change the language to recite a notched izod value of at least about 1.0 ft-lb/in. Support for the recitation may be found in Table 1 on page 8, line 6.

Rejection under 35 U.S.C. 103

The Examiner rejects all of the claims over various combinations of prior art.

Troy *et al.* in view of Toyo and further in view of Cutter

The Examiner rejects claims 1, 2, 5, 13 and 14 as unpatentable over Troy *et al.* in view of Toyo and further in view of Cutter. The Examiner says that Troy *et al.* disclose a composition of 2 to 40 wt % methyl methacrylate-butadiene-styrene (MBS) and from 60 to 98 wt % of a matrix polymer that includes e.g. poly(methyl methacrylate), styrene-acrylonitrile copolymers, etc. The MBS copolymer comprises at least 40 wt % butadiene and in one instance 12 wt. % methyl methacrylate and 10 wt % styrene. The Examiner admits that Troy *et al.* do not disclose using a UV stabilizer and other additives, but cites to column 5, lines 25-42 as allegedly teaching using plasticizers lubricants and processing aids.

The Examiner indicates that Toyo teaches plasticizers in a composition of acrylic-based multipolymers modified with a butadiene rubber (citing page 8, lines 70-77) and that Cutter teaches using UV stabilizers such as benzotriazoles in amounts up to 1 wt % together with antioxidants in amounts up to 1 wt%.

The Examiner says that it would have been obvious to add these additives to the composition of Troy *et al.* to attain the presently claimed compositions. Moreover, the Examiner says that the present claims do not require the additives since the concentration includes amounts of 0 wt%.

The Examiner further admits that Troy *et al.* do not disclose the specific multipolymer of claim 1. However, Toyo discloses an acrylic-based multipolymer modified with a butadiene rubber comprising 40 to 85 wt % methyl methacrylate, 15 to 60 wt % styrene, and at most 30 wt % of at least one comonomer selected from methyl acrylate, ethyl acrylate, butyl acrylate and acrylonitrile. According to the Examiner, it appears that the amount of each of the monomers would overlap the ranges of claim 1. Additionally, the Examiner contends that Toyo teach that the compositions taught have high impact resistance and transparency by using such multipolymer.

Next, the Examiner contends that it would be obvious to add the polymer additives of claims 5-11. The Examiner admits that Troy *et al.* do not teach adding auxiliary polymer additives to tune the refractive index of the multipolymer hard phase. However, the Examiner says that Siol teaches adding a second polymer to a first polymer to tune the refractive index so that the refractive index matches the rubber component of the blend. Moreover, allegedly one potential embodiment of Siol uses methyl methacrylate as the second polymer (citing Column 8, lines 52-58).

Additionally, the Examiner contends that though Troy *et al.* are silent regarding the impact strength of the composition, it is inherent that a composition having acrylic based copolymer and a compatible modified butadiene rubber retain impact strength at a “commercially significant level” at some temperatures below zero degrees because butadiene rubber has a sub-zero glass transition temperature and would exhibit some ductile properties at low temperatures. Hence, the sub-zero temperature impact properties are allegedly obvious.

Applicants respectfully traverse the rejection. Applicants herein change the language of claim 1 to more distinctly and clearly define the invention. Specifically,

Applicants insert language to describe that the composition maintains a haze of about 1.1% or less and a notched izod value of about 1.1 ft-lb/ in. at low temperatures. None of the prior art compositions have such properties.

Applicants invented a novel process for producing an acrylic based multipolymer molding and extrusion composition. The novel process as described in claims 3 and 4 produces a novel and non-obvious composition as described in the remaining claims 1, 2 and 5-14. While Applicants do not acquiesce that the Examiner's characterizations of Troy *et al.* are correct, Applicants submit that one clear way of distinguishing the present invention over the compositions of Troy *et al.* is to focus on the combination of improved room temperature impact strength and optical clarity of the presently claimed compositions.

Troy *et al.* in view of di Leone *et al.*

The Examiner rejects claims 12-14 as unpatentable over Troy *et al.* in view of di Leone *et al.* The Examiner admits that Troy *et al.* do not disclose the specific terpolymer as described in claim 12. Allegedly, di Leone teach a terpolymer of methyl methacrylate, styrene, and ethyl acrylate in a composition having improved toughness, rigidity and transparency (citing Col. 2, lines 51-52). Allegedly, it would have been obvious to use the terpolymer as taught by di Leone for improved toughness and transparency together with additives such as a plasticizer and an antioxidant.

Applicants respectfully traverse the rejection. Applicants herein change the language of claim 1 to more distinctly and clearly define the invention. Specifically, Applicants describe that the composition maintains a haze of about 1.1% or less and a notched izod value of about 1.1 ft-lb/ in. at low temperatures. None of the prior art compositions have such properties.

